REMARKS

Claims 1-15, 27-31, and 36-47 are pending. Claims 1-15 and 27-29 are withdrawn as being directed to non-elected subject matter. Claims 30-31 were previously elected and are currently under examination. Claims 36-47 are newly added and depend from claim 30. Claim 30 has been amended with respect to compound c). Support for this amendment is located on page 10, lines 37-39 of the specification. Also in claim 30, the molar ratio of compounds a) to compounds b) has been directed to ranges from 0.5:1 to less than 2:1. Support for this amendment is located, for example, in original claim 2. In claim 36, the quantitative molar ratio of compounds a) to compounds b) has been directed to a narrower range of from 0.7:1 to 1.8:1. Support for this amendment is located, for example, in original claim 2. New claims 37-46 correspond to original claims 3-12 and claim 47 corresponds to original claim 15. No new matter has been added into the claims.

Response to Rejection Pursuant to 35 U.S.C. § 103(a)

Claims 30-31 have been rejected under 35 U.S.C. § 103(a) as being obvious over Jenkins, U.S. Patent No. 5,639,841 ("Jenkins"), or Blankenburg *et al.*, U.S. Patent No. 6,403,074 ("Blankenburt *et al.*"), or Morschhäuser *et al.*, U.S. Patent No. 6,645,476 ("Morschhäuser *et al.*") or Galleguillos *et al.*, U.S. Patent No. 6,361,768 ("Galleguillos *et al.*"). The rejection is improper because (1) the references do not account for every element of the claims, (2) the references actually teach away from what is claimed, and (3) applicants have discovered that the particular combinations in the particular ranges claimed afford a spectrum of beneficial properties.

The Supreme Court set forth the following factual inquiries for consideration in an obviousness analysis, which is relied upon throughout this response:

(A) The scope and contents of the prior art;
(B) The differences between the prior art and the claims in issue:
(C) The level of skill in the pertinent art; and
(D) Objective evidence and secondary considerations.

KSR Int'l Co. v. Teleflex, Inc., 127 S. Ct. 1727 (2007) *citing Graham v. John Deere Co.*, 383 U.S. 1 (1966). These factual inquiries are considered as they relate to the instant rejection.

With respect to the scope and content of the prior art, the office action relies on four references: (1) Jenkins, (2) Blankenburt *et al.*, (3) Morschhäuser *et al.*, and (4) Galleguillos *et al.*

Jenkins generically describes a broad range of mixtures having nonionic, cationic, anionic or amphoteric monomers in the manufacture of polymers containing macromonomers. *See, e.g.*, Jenkins, Col. 2, lines 47-50. At the core of its disclosure is the use of two particular types of macromoners, one with a terminal R^1 group derived from a complex hydrophobe compound (*Id.*, Col. 4, lines 8-9), and the other with a terminal group R^1 derived from a hydrophobe compound different from the complex hydrophobe compound. *Id.*, Col. 4, lines 26-28. Jenkins does not specify mixtures of cationic and anionic monomers and further does not describe mixtures having (a) cationic monomers, (b) anionic monomers, and (c) nonionic amide group containing monomers.

Blankenburt *et al.* describes polymers containing polysiloxane groups for cosmetic formulations, which are special graft polymers obtained by polymerization of monomers selected from a large group of diverse ethlenically unsaturated monomers in the presence of a polyether polysiloxane that is not ethylenically unsaturated. Blankenburt *et al.* does not specify mixtures of cationic and anionic monomers and further does not describe mixtures having (a) cationic monomers, (b) anionic monomers, and (c) nonionic amide group containing monomers.

Morschhäuser *et al.* refers to polymers prepared by free-radical copolymerization of (a) one or more macromonomers containing an end-group capable of polymerization, a hydrophilic moiety based on polyalkylene oxides, and a hydrophobic moiety comprising hydrogen or a (C_1-C_{30})-hydrocarbon radical, and (b) one or more olefinically unsaturated comonomers containing oxygen, nitrogen, sulfur, phosphorus, chlorine and/or fluorine. Morschhäuser *et al.* does not specify mixtures of cationic and anionic monomers and further does not describe mixtures

having (a) cationic monomers, (b) anionic monomers, and (c) nonionic amide group containing monomers.

Galleguillos *et al*. describes a hydrophilic ampholytic polymer or copolymer formed by the copolymerization of:

(a) 0.05 to 20 mole percent of at least one anionic monomer having at least one carboxy-functional group;

(b) 10 to 45 mole percent of at least one cationic monomer having at least one amino-functional group;

(c) a sufficient quantity (in an amount of about 35 to about 95 mole percent) of at least one non-ionic hydrophilic monomer to provide a glass transition temperature of above about 50°C;

(d) 0 to10 mole percent of a fourth hydrophobic monomer; and

(e) 0 to 1.5 mole percent of a cross-linking monomer.

According to the general teaching of the reference, the ratio of anionic compounds to cationic compounds is in a very broad range of 0.001:1 to 2:1, and preferably an excess of cationic monomers over anionic monomers is employed. In fact, the molar ratio of anionic compounds to cationic compounds is 1:2 or greater. *See, e.g.*, Col. 12, lines 34-40. In each example, the molar ratio of anionic compound (MAA) to cationic compound (DMAPMA) is in a range of from 1:>>2, as summarized in the table below.

Example	1	2	3	4	5	6	7	8	9	10	11	12	13	14
MAA	1	1	1	1	1	1	1	1	1	1	1	1	1	1
MDAPMA	3.1	6.43	6.43	8.19	11.27	6.43	6.43	6.42	6.42	6.42	6.43	6.43	7.77	6.43

With respect to the differences between the cited references and the claims at issue, the cited references do not account for an ampholytic copolymer derived from particular anionogenic/anionic monomers, particular cationogenic/cationic monomers, and amide-group-containing monomers wherein the quantitative molar ratio of particular anionogenic/anionic monomers to particular cationogenic/cationic monomers is **in the range of 0.5:1 to less than 2:1**. Accordingly, the rejection is improper because it does not provide all the elements of

the claims. To establish *prima facie* obviousness, all the claim limitations must be taught or suggested by the prior art. *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991); *In re Royka*, 490 F.2d 981 (CCPA 1974).

With respect to objective evidence and secondary considerations, the references teach away from what applicants have discovered by exemplifying mixtures different from the claimed mixtures and therefore weigh in favor of nonobviousness. Where a reference teaches away from and discourages a person skilled in the art from doing what is claimed, the reference established "the very antithesis of obviousness." *In re Buehler* 185 USPQ 781 (CCPA 1975).

Galleguillos *et al*. generically suggest a broad ratio of anionic compounds to cationic compound of from 0.001:1 to 2:1 and exemplifies the molar ratio of anionic compound (MAA) to cationic compound (DMAPMA) in a range of from 1:>>2. A prior art reference that teaches or suggests a preferred embodiment different from the claimed subject matter weighs against a determination of obviousness. *In re Baird*, 16 F.3d 380, 382-83, (Fed. Cir. 1994); *See* also MPEP 2144.08(II)(A)(4). In *In re Baird*, although the prior art generically encompassed the claimed compound, it exemplified compounds differing from the claimed compounds. The court held that applicants' claimed subject matter was NOT obvious. By exemplifying compounds different from the claimed compounds, the prior art served to teach away from what applicants discovered and discouraged further investigating of non-exemplified compounds. Thus, Morschhäuser *et al*. actually leads away from proceeding as applicants have done and away from a conclusion of obviousness.

Finally, applicants discovered that the particular combinations in the particular ranges claimed impart a myriad of beneficial properties to cosmetic and pharmaceutical compositions. The claimed copolymers provide novel polyectrolytes that meet a complex spectrum of requirements. For instance, they form tack-free smooth films, have good setting action, are suitable in the preparation of products in the form of gels, and are compatible with a large number of different polyelectrolytes. *See, e.g.*, the specification on page 3, lines 23-35. The many examples presented in the specification demonstrate the claimed copolymers' use, for instance, in the manufacture of conditioner shampoos (examples 80-130), hair gels with an

anionic thickeners (examples 181-230), hair gels with further setting polymers and thickeners (examples 231-280), anionic self-thickening hair gels (examples 281-330), and skin cosmetics (examples 331-380). The host of beneficial properties is especially surprising considering that Galleguillos *et al.* suggests that a much different ratio (than the claimed ratio) of cationic/anionic compounds achieves optimum results.

In sum, the rejection is improper and should be withdrawn because it does not account for every element of the claims, the references teach away from proceeding as applicants have done, and because the claimed compositions exhibit a surprising host of beneficial results.

In view of the above, consideration and allowance are respectfully solicited.

In the event the Examiner believes an interview might serve in any way to advance the prosecution of this application, the undersigned is available at the telephone number noted below.

The Office is authorized to charge any necessary fees to Deposit Account No. 22-0185.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 03-2775, under Order No. 13111-00023-US from which the undersigned is authorized to draw.

Dated: July 22, 2008

Respectfully submitted,

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